WHAT IS CLAIMED IS

1. A multi-processor system comprising:

a slave processor;

a first transmission path connected to said slave processor;

a master processor connected to said first transmission path through which said master processor starts to communicate with said slave processor; and

a second transmission path which connects said slave processor and said master processor and whose transmission speed is smaller than that of said first transmission path; wherein

said slave processor is equipped with a command transmission means for sending a transmission request command which requests either data transmission or data reception to said master processor via said second transmission path; and

said master processor is equipped with a data transmission means for starting data transmission to said slave processor via said first transmission path in response to said transmission request command.

2. A multi-processor system comprising:

a slave processor (defined as a slave relative to a master processor) having a first single master type bi-directional communication interface unit and a first multi-master type bi-directional communication interface unit whose transmission speed is smaller than that of first single master type bi-

directional communication interface;

a master processor (defined as a master to start communication with said slave) having a second single master type bi-directional communication interface unit and a second multi-master type bi-directional communication interface unit whose transmission speed is smaller than that of second single master type bi-directional communication interface unit;

a first transmission cable for connecting said first single master type bi-directional communication interface unit and said second single master type bi-directional communication interface unit; and

a second communication cable for connecting said first multi-master type bi-directional communication interface unit and said second single multi-master type bi-directional communication interface unit; wherein

said slave processor is equipped with a first command transmission means for transmitting a transmission request command to ask said master processor to start data transmission from said first multi-master type bi-directional communication interface unit to said master processor via said second communication cable; and

said master processor causes said second single master type bi-directional communication interface to start communication with said single master bi-directional communication interface unit in response to said transmission request command which was received by said second multi-master

type bi-directional communication interface and sends said data to said slave processor via said first communication cable.

3. The multi-processor system of Claim 2 wherein said first single master type bi-directional communication interface unit and said second single master type bi-directional communication interface unit are SPI (Serial Communication Interface) units.

4. The multi-processor system of Claim 2 wherein said first multi-master type bi-directional communication interface unit and said second multi-master type bi-directional communication interface unit are either serial communication interface units or IEEE1394 interface units.

5. The multi-processor system of Claim 2 wherein said master processor has an input means which connects an input device and receives,

said slave processor contains a program which processes data from said input device,

said first command transmission means sends a first transmission request command which requests transmission of data from said input device to said master processor via said first multi-master type bi-directional communication interface unit in response to a request from said program, and

said data communication means causes said second single master type bi-directional communication interface unit to start reception of data from said input device in response to

said first transmission request command when said second multi-master type bi-directional communication interface unit receives said first transmission request command.

6. The multi-processor system of Claim 5, wherein

said master processor is equipped with a storage means which is correspondent to said input device and stores a first input page to contain data from said input device,

said slave processor is equipped with a storage means which contains a second input page correspondent to said input page,

said first command transmission means sends said first transmission request command which contains a specification of said first input page, and

said data communication means causes said second single master type bi-directional communication interface unit to start to receive data from said first input page and store said data in said second input page.

7. The multi-processor system of Claim 2, wherein

said master processor has an output means which connects an input device and sends data to said output device,

said slave processor contains a program to calculate said input data,

said first command transmission means transmits a second transmission request command which requests reception of said input data in response to a request from said program to said master processor via said first multi-master type bi-

directional communication interface unit, and

said data communication means causes said second single master type bi-directional communication interface unit to start data transmission to said output device in response to said second transmission request command when said second multi-master type bi-directional communication receives said second transmission request command

8. The multi-processor system of Claim 7, wherein

said slave processor has a storage means related to said output device and contains a first output page in which the input data of said output device is stored by said program,

said first command transmission means transmits said second transmission request command which contains the specification of said first output page,

said data communication means causes said second single master type bi-directional communication interface unit to start transmission of said input data which is stored in said first output page indicated by the specification in said second transmission request command, and

said master processor comprises a storage means which contains a second output page corresponding to said first output page and a data communication means which stores, in said second output page, data which said second single master type bi-directional communication interface unit transmitted in response to said second transmission request command.

9. The multi-processor system of Claim 2, wherein

said master processor contains a first program,

said slave processor contains a second program which cooperates with said first program,

said first command transmission means transmits a first transmission request command which requests to transmit output data of said first program and a second transmission request command which requests to receive output data of said second program in response to a request from said second program to said master processor via said master processor, and

said data communication means causes said second single master type bi-directional communication interface unit to start transmission of output data of said first program to said second multi-master type bi-directional communication interface unit in response to said first transmission request command when said second multi-master type bi-directional communication interface unit receives said first transmission request command and causes said second multi-master type bi-directional communication interface unit to start reception of the output data of said second program to said first single master type bi-directional communication interface unit in response to said second transmission request command when said second multi-master type bi-directional communication interface unit receives said second transmission request command.

10. The multi-processor system of Claim 2, wherein a third communication cable is provided to connect said

first multi-master type bi-directional communication interface unit and said second multi-master type bi-directional communication interface unit,

said master processor is equipped with a second command transmission means which transmits a command to said slave processor from said second multi-master type bi-directional communication interface unit via said third communication cable,

this second command transmission means transmits a confirmation message to said slave processor via said second communication cable from said second multi-master type bi-directional communication interface unit when said second multi-master type bi-directional communication interface unit receives said transmission request command via said second communication cable, and

said first command transmission means transmits a confirmation message to said master processor via said third communication cable when said second multi-master type bi-directional communication interface unit receives said transmission command via said third communication cable.

11. The multi-processor system of Claim 2, wherein

said first multi-master type bi-directional communication interface unit is provided inside or outside of said slave processor and said second multi-master type bi-directional communication interface unit is provided inside or outside of said master processor.